CLAIMS:

1. A process for the transmission of data on an optical fiber comprising a stage of multiplexing in wavelength of signals coming from a plurality of monochrome transmitters, each of which has its own wavelength, and a stage of modulation by the information to be transmitted by a carrier realized per channel, characterized in that the timing (clocking) of each of these transmitters is controlled by a common clock.

2. The process for the transmission of data according to Claim 1, characterized in that it also comprises a formatting stage that is common and simultaneous for all the carriers.

3. The process for the transmission of data according to Claim 2, characterized in that the formatting [forming, shaping] stage consists in optimizing the form [shape] of the signal as a function of the characteristics of the propagation of the associated transport means.

4. The process for the transmission of data according to Claim 2, characterized in that the formatting [forming, shaping] stage consists of optimizing the optical parameters of the signal as a function of the characteristics of the propagation of the associated transport means.

5. The process for the transmission of data according to Claim 2, characterized in that the formatting stage comprises an operation of stabilizing the temporal parameters of the data stream.

6. The process for the transmission of data according to Claim 1 or 2, characterized in that the process comprises a stage of synchronizing streams (pulses) emitted by said monochrome transmitters.

7. The process for the transmission of data according to Claim 1 or 2, characterized in that the formatting stage comprises an operation of aligning the phase of the signals generated by said transmitters.

8. The process for the transmission of data according to Claim 7, characterized in that this alignment operation is subject to ambient parameters in order to compensate temporal signal variations.

9. The process for the transmission of data according to Claim 7, characterized in that the alignment operation is subject to ambient parameters in order to compensate the differences and variations between the optical paths.

10. The process for the transmission of data according to Claim 1, characterized in that each element of the multiplex is signed before the multiplexing stage by a frequency marker applied on the phase.

11. The process for the transmission of data according to Claim 1, characterized in that each element of the multiplex is advantageously signed before the multiplexing stage by a frequency marker applied on the amplitude.

12. The process for the transmission of data according to Claim 11, characterized in that this marker is constituted by a signal with a predetermined spectrum.

13. The process for the transmission of data according to Claim 11, characterized in that this marker is constituted by a signal with a spectrum whose characteristics are functions of the disturbances undergone by the signal on the corresponding path.

14. The process for the transmission of data according to Claim 11, characterized in that the characteristics of the marker are determined in order to disturb the marked signal in such a manner that the marking is evanescent during the passage in the gate.

15. Equipment for the transmission of data on an optical fiber, comprising a plurality of monochrome transmitters, each of which has its own transmission wavelength and a multiplexer, characterized in that it comprises a master clock controlling the slave clocks of each of these transmitters.

16. The equipment for the transmission of data on an optical fiber according to Claim 15, characterized in that it also comprises an optical gate that receives the multiplex of optical carriers as well as a cutting signal produced by this master clock.

17. The equipment for the transmission of data on an optical fiber according to Claim 15, characterized in that it comprises frequency marking circuits for each element of the multiplex.

18. The equipment for the transmission of data on an optical fiber according to Claim 17, characterized in that each of these frequency marking circuits applies the marking signal onto one of the transmitters.

19. The equipment for the transmission of data on an optical fiber according to Claim 17, characterized in that each of these frequency marking circuits applies the marking signal onto the synchronization means of each path.

20. The equipment for the transmission of data on an optical fiber according to at least one of Claims 16 to 19, characterized in that the optical gate comprises means for detecting each marker in order to control the characteristics of the formatting and adjustment of the phase of the corresponding path.

21. The equipment for the transmission of data on an optical fiber according to at least one of Claims 16 to 20, characterized in that the optical gate comprises means for the spectral analysis of the marker for the adjustment of the phase of each path.

22. The equipment for the regeneration of data on an optical fiber according to at least one of Claims 15 to 21, characterized in that it comprises optical conversion means, a demultiplexer and a clock connected to at least one of said converters.

23. A counter-reaction circuit for equipment for the transmission of data on an optical fiber, characterized in that it generates a frequency marker for injecting a disturbing spectral signal of a transmitter, and comprises means for the detection of the output signal of a gate for acting on means for the automatic control [slaving] of the transmitter phase for obtaining the desired spectral transformation of each marker.